

24. The method of claim 14 wherein said treated separated sonicated fluid is recycled for use as said fluid in said method.
- 5 25. The method of claim 1 wherein said sonicating step uses sonication equipment without grinding media.
26. The method of claim 1, wherein said sonicating step occurs in a temperature range of 100-120 °C.
- 10 27. The method of claim 5, wherein said sonicating step occurs in a temperature range of 80-98°C.
28. The method of claim 1, wherein said sonicating step uses
15 a resonating probe contacting said fluid.
29. The method of claim 1, wherein said sonicating step takes place in one or more chambers mounted axially to a resonating member.
- 20 30. The method of claim 1, wherein said liquid hydrocarbons contain one or more hydrocarbon subcomponents which are not liquids at sonication temperature.
- 25 31. The method according to claim 4, wherein said sonicating step occurs at a minimum temperature of 100°C.
32. The method according to claim 1, wherein said sodium-containing alkali metal is commercially pure sodium
30 metal.
33. An apparatus for treating polychlorinated biphenyl (PCB) contaminated media, comprising:

- a) a reaction vessel for holding a mixture of said media and a liquid hydrocarbon-containing fluid;
 - b) a sonicator without grinding media for sonicating said mixture at an audio frequency; and
 - 5 c) a heater for controlling the temperature of said mixture.
34. The apparatus of claim 33, wherein said sonicator uses a resonating probe contacting said fluid.
- 10 35. The apparatus of claim 33, wherein said reaction vessel consists of one or more chambers mounted axially to a resonating member of said sonicator.
- 15 36. The apparatus of claim 33, wherein said reaction vessel includes vents to release gas during sonication.